

November 10, 2003

To: Commissioner for Patents P.O.Box 1450 Alexandria, VA 22313-1450

Fr: George O. Saile, Reg. No. 19,572 28 Davis Avenue Poughkeepsie, N.Y. 12603

Subject:

Serial No. 10/638,235 08/08/03

Chaoyong Li et al.

METHOD TO FORM COPPER SEED LAYER FOR COPPER INTERCONNECT

Grp. Art Unit:

## INFORMATION DISCLOSURE STATEMENT

Enclosed is Form PTO-1449, Information Disclosure Citation In An Application.

The following Patents and/or Publications are submitted to comply with the duty of disclosure under CFR 1.97-1.99 and 37 CFR 1.56. Copies of each document is included herewith.

## CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on November 2), 2003.

Stephen B. Ackerman, Reg.# 37761

IME-02-014

U.S. Patent Application Publication US 2002/0119657 A1 to Gandikota et al., "Method for Enhancing the Adhesion of Copper Deposited by Chemical Vapor Deposition," discloses a Cu process with a metal plasma CVD nucleation layer.

U.S. Patent Application Publication US 2002/0068449 A1 to Hashim et al., "Method of Depositing a Copper Seed Layer Which Promotes Improved Feature Surface Coverage," discloses a Cu seed layer process with a metal plasma CVD nucleation layer.

U.S. Patent 6,391,776 to Hashim et al., "Method of Depositing a Copper Seed Layer Which Promotes Improved Feature Surface Coverage," discloses a Cu seed layer process.

U.S. Patent 6,306,732 to Brown, "Method and Apparatus for Simultaneously Improving the Electromigration Reliability and Resistance of Damascene Vias Using a Controlled Diffusivity Barrier," discloses a Cu dual damascene process with a barrier layer.

Sincerely,

Stephen B. Ackerman,

Reg. No. 37761

Doctor Humber (Ciperina) Form PTO-1449 10 638, 235 IME-02-014 INFORMATION DISCLOSURE CITATION IN AN APPLICATION NOV | 2 4 2003 (Uso several shouts if necessary) U. S'. PATENT DOCUMENTS MUND DATE DOCUMENT HUMBER DATE HAME CLASS BUBCLASS 7765/2102 Hashim et al 438 687 30 673210/23/01 Brown 438 468 FOREIGN PATENT DOCUMENTS Translation CLASS COCUMENT NUMBER SUBCLASS OATE COUNTRY YES OTHER DOCUMENTS (Induding Luthor, Title, Dale, Perliners Pages, Elc.) Class 438/687 U.S. Patent App. Pub. US 2002/006 8449 At to Hashim et al Pub. Date 6/6/02, Class 438/687, Filed 1/24/02. EXAMMER DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant